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ABSTRACT

This document serves as the final report to the National Historical Publications and Records Commission (NHPRC) of the work of the Midwest State Archives Guide Project. The project involved the state archives in Minnesota, Illinois, Indiana, and Wisconsin, and was expected to contribute to a projected national guide project database, though when the project began there had been little systematic planning for a national information system outside of the NHPRC staff. This report describes the purposes of the project, its successes, and its problems, and examines alternative approaches to an archival descriptive database. It also addresses the goals of the project as described in the grant application, and notes how outside events made some of the goals irrelevant, or caused the project team to change their emphasis. Appendices, which make up more than half of the document, comprise: (1) Publications and Papers Generated from Participation in the Midwest State Archives Guide Project; (2) A Comparison of Natural Language Access and Assigned Term Indexing; (3) Data Base Design; (4) Style Sheet; (5) Data Entry Forms Used during the Project; (6) Illinois County Records Approach and Data Base Design; and (7) Sample of Wisconsin and Minnesota Reports. (THC)

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THE MIDWEST STATE ARCHIVES GUIDE PROJECT: AN EVALUATION

A Report Submitted to the
National Historical Publications and Records Commission
upon the Completion of
Grant Number 80-8

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THE MIDWEST STATE ARCHIVES GUIDE PROJECT: AN EVALUATION

Introduction

This document serves as the final report to the National Historical Publications and Records Commission (NHPRC) of the work of the Midwest State Archives Guide Project (MSAGP). The project was funded for its initial phase in July 1978 and for its second phase in April 1980. The report describes the purposes of the project, its successes, and its problems, and looks at alternative approaches to an archival descriptive data base. It addresses the goals of the project as described in the grant application, and notes how outside events have made some of the goals irrelevant, or have caused us to change their emphasis.

The changing computer world has affected the outcome of the project. Administrative Data Processing (ADP) at the University of Wisconsin, the organization which provided the computer support for the project, made available powerful and sophisticated word processing equipment. Such equipment gave us more than word processing and data entry; it introduced the project staff in Madison to the possibilities of minicomputers and it allowed the project staff to initiate and assume responsibility for running SPINDEX production jobs and getting output at the word processor. A change in ADP's policies allowed the project to have access to additional (non-SPINDEX) programs which supplemented and extended the power of SPINDEX and gave us direct access to ADP's IBM-370 mainframe computer.

The Illinois State Archives had a similar experience. The computer of the Illinois Secretary of State's Office was made available to the State Archives on much more friendly terms than were previously possible, and the archives was given incentives to use that in-house computer for their primary access through an on-line system. Their enthusiasm for the MSAGP's SPINDEX system naturally diminished.

The project was expected to contribute to a projected national guide project data base, though when the project began there had been little systematic planning for a national information system outside of the NHPRC staff. In 1979 the Society of American Archivists established a National Information System Task Force (NISTF) to provide a framework for data base projects, which, if followed, would assure compatibility from one project to another. At the same time an unofficial revision of the Anglo-American Cataloging Rules (2nd edition) (AACR2) for cataloging manuscript collections and archival material was issued by the Manuscript Division of the Library of Congress. The rules codify LC Manuscript Division practices and provide a useful set of descriptive standards. The work of the project was well underway or nearly completed before either the NISTF data element dictionary and MARC Format for Archives and Manuscript Collections or the Manuscript Division rules were issued. Such standards are solid contributions to

archival descriptive practices and would have been most useful in planning and executing the MSAGP data base.

During Phase II the leadership provided by the NHPRC staff changed drastically. With staff reductions and consequent turnover at the NHPRC, the NHPRC did not monitor this project (and other related ones) as closely as it once did. Perhaps more importantly, the knowledge that the collection/series level national data base was not likely to materialize, removed the incentive to assure that descriptive consistency was achieved.

The project participants also altered some of the goals. Our attempts to develop a uniform approach to indexing proved to be too idealistic and not within our technical or financial means. Nevertheless, we did develop some concepts about archival indexing and we have prepared a related report that describes in detail our philosophy.

This report is one of a series of reports on the project. Others include "Approaches to Archival Indexing: A Discussion Document," "Subject Terms Used in the Illinois State Archives and in the Wisconsin State Archives," "Producing In-House Finding Aids and Administrative Reports: An Expanded Data Base Design," and "Report on Data Entry Approaches."

Background

The Midwest State Archives Guide Project was a cooperative project initially involving four state archival agencies--the Illinois State Archives, the Indiana State Archives, the Minnesota Historical Society, and the State Historical Society of Wisconsin. Its purpose was to develop a computerized system for description of state public records. Such a system, to quote from the Phase I grant application, "will be designed so that it (a) can be applied generally to state archives; (b) will 'capture' data about each series and record group and will permit the data to be updated, manipulated, and issued in a variety of guides, indexes, and other finding aids; (c) will be compatible with the proposed NHPRC guide project; (d) will set descriptive standards for the public records of the state; and (e) will be cost effective."

The project had three distinct phases: one, planning (August 1, 1978 through September 30, 1980); two, production (April 1, 1980 through June 30, 1982); and three, the on-going phase.

Several conditions encouraged the proposal and funding of this project. In 1975, the NHPRC began planning a national data base of descriptions of archival and manuscript holdings. The Directory of Archives and Manuscript Repositories, published in 1978, was the first product of the proposed national system. Records survey and description projects in several states, designed to complement this national project, were funded by the NHPRC.

Thoughts of a national data base of archival description were not new; in 1968 the state archivist of Wisconsin had prepared a proposal for the establishment of a national project to coordinate and centralize the descriptions of state archival holdings. This plan was a response to Ernst Posner's observation in his American State Archives (1964) that although the publication of guides is a primary duty of state archival agencies, such guides were conspicuously lacking. The situation by 1977 had not changed much. With few exceptions, the public records of the states were still largely undescribed in published guides. The inadequately described research resources of state archives could be opened to wider use by having better and more timely finding aids.

This project was initiated at the 1977 Society of American Archivists annual meeting in Salt Lake City when archivists from the four states, together with staff from the NHPRC's records program, met informally to discuss the project. A proposal for a planning project was submitted in time for the June 1978 Commission meeting and, upon receiving funding, the project began in August 1978.

The NHPRC system is based on SPINDEX, a general-purpose computer package designed especially for archival work. Because the Assistant State Archivist in Wisconsin was the only one among the participants with successful SPINDEX experience, he became the Project Director and the project was based at the State Historical Society of Wisconsin in Madison.

The first phase of the project was successfully completed with the production of a prototype guide to the four state archives in the summer of 1980. Because of its limited scope, the prototype was never intended to be a finding aid, but rather to demonstrate to the participants the feasibility of using the data base to produce electronic photocomposition copy in a satisfactory format for a guide.

The prototype, and the process of its production during the initial phase, revealed several inconsistencies, especially in the various approaches to indexing. One of the major goals of the second phase, therefore, was to begin a thorough examination from the archival viewpoint of indexing principles, practices, and strategies. We hoped to develop a common approach to indexing archival material and to arrive at a common list of subject terms.

The primary goal of Phase II, however, was to edit and code existing finding aids and enter data into the SPINDEX data base. The data base was to serve multiple purposes: (1) It was to produce customized access tools for research and reference purposes, including both published guides and indexes and unpublished in-house finding aids; (2) it was to produce administrative lists and reports, such as shelf lists, accession lists, in-process lists, and others; and (3) it was to became part of the NHPRC-proposed national data base.

History of the Project

The second phase of the project started in April 1980 with three states--Illinois, Minnesota, and Wisconsin--as participants. In addition to the personnel listed on the grant application (Max J. Evans, Project Director; Lydia Lucas and Roy Turnbaugh, Associate Project Directors; and Marion Matters, Project Associate), the project appointed Karen Baumann, an archivist at the State Historical Society of Wisconsin, as Assistant Project Director. Ms. Baumann assumed the major responsibility for the day-to-day operation of the project, overall editorial direction, data entry, and the indexing research phase of the project. In May 1980 Margaret Wise was hired as a limited term employee to edit, code, and supply index terms for Wisconsin data. In June, Mary Jankowitz in Minnesota and in August Robert Bailey in Illinois were also hired as project archivists and the data coding and indexing was under way in all three states by the summer of 1980.

During the course of the project the project staff met three times: in Madison in the summer of 1980; for the indexing seminar in Madison in February 1981; and at the SPINDEX Users' Network meeting in Lexington, Kentucky, May 1982. We also met informally at the SAA meeting in San Francisco in September 1981.

The CPT word processor used for data entry for the first stage was removed and replaced for Phase II with a temporary Wang system 20 word processor (a stand-alone system) with a telecommunications link to ADP. By September, the Wang OIS-140 terminal and a printer had been installed, and we began to use that equipment for data entry. We also began to develop the Job Control Language (JCL) needed to initiate and run jobs from the Wang.

We began early to review our experience in subject access. Ms. Baumann enrolled in a course at the University of Wisconsin-Madison Library School on indexing and subject access. We studied various approaches, and experimented with a number of them, including a kind of string indexing based loosely on PRECIS. These initial experiments, using actual descriptions currently being coded and entered into the data base, helped us understand the complexity of the problem of subject indexing in a practical way, and helped prepare us for the indexing seminar early the next year. In preparation for the indexing seminar, we began a search for a consultant who could guide us and direct our thinking. We selected Professor Elaine Svenonius, then on the faculty of the University of Denver Graduate School of Librarianship and Information Management (now at UCLA). Each of the three participating state archives prepared written position papers by December 1980. These papers were circulated among the participants and to Dr. Svenonius. In February 1981 the indexing seminar was held. The conclusions reached at that time (which are more fully reflected in "Approaches to Archival Indexing: A Discussion Document") altered the direction the project would take. Contrary to the expectations we had had for a unified approach to a subject index by all three participating states, we found that varying institutional needs and the need to apply indexing standards consistent with the standards and practices of the parent organization, were stronger than the need to establish consistency within a cooperative project. A study of the test index produced by the NHPRC which included data from a half-dozen participating guide projects, reinforced our conclusion that a uniform, national approach to subject indexing archival records is not yet a practical goal for the archival profession.

One of the alternatives for providing subject access to archival material explored at the indexing meeting was the use of full text searching of the narrative portion of descriptions. This option only works, of course, in a fairly sophisticated on-line system. However, there are several advantages to such an approach, not the least of which is that the labor-intensive assignment of pre-coordinated index terms drawn from an authority list is not required. To test the validity of this approach, we used the permutation feature of SPINDEX to generate an index to a sample of the data base. This index was derived from the words in the narrative descriptions. Aside from the fact that the resulting index was very large and contained many irrelevant keywords (demonstrating that an on-line system is needed), we found that the index was nearly as effective as an index produced from pre-coordinated, assigned index terms. We could not effectively emulate Boolean searches with the test index, but the use of Boolean operators in an on-line, full-text searching system would, we believe, be superior to all but the most rigorously designed and executed pre-coordinated system. (See report on this study in Appendix 2.)

Minnesota's series descriptions were coded and entered onto data entry worksheets which were then sent to Madison for entry. Each batch was keyed into the Wang, and a copy was printed and sent to St. Paul for proofreading. The proofed copy was returned to Madison, where corrections were made on the Wang file before the batch was sent via a telecommunication link to ADP for processing and addition to the SPINDEX data base. After the bulk of Minnesota's series were entered (some 4300 state and local record series) a set of "dummy" records, consisting of cross references and entries noting the existence of undescribed record groups, was added to the data base to facilitate the final production of a checklist.

Wisconsin followed similar procedures to enter their data. By the end of the project over 2,000 Wisconsin state government record series had been entered, plus more than 1,000 entries for manuscript collections.

Nearly all of this data entry was done by part-time employees who were university students. In general, the use of students for this work was very successful. We were fortunate in that we experienced very little turnover and that the students hired were generally conscientious and careful and for the most part very skilled. The fact that they rarely worked more than three or four hours at a time probably contributed to their accuracy. The only problems encountered had to do with scheduling in order to make maximun use of the hardware.

Illinois' descriptions were entered in Springfield by the staff of the state archives. Because the data for Illinois state records already existed in a machine readable form (that is, in the form used to produce the Descriptive Inventory, 1978), it was decided that the county-level records would be entered first. This was done on an IBM magcard typewriter; the cards were sent to Madison where they were read onto a file at ADP, transmitted electronically to the Historical Society's Wang word processor, edited for consistency and accuracy, and then transmitted to the SPINDEX data base. This procedure worked very well.

Illinois' approach to county-level data is to prepare a few generalized series descriptions, that is, descriptions that apply to the same kind of record regardless of the number of counties in which it occurs. Initially,

over 900 "occurrences" were entered. Each occurrence is an entry for a specific series in a specific county. These occurrence entries consist of only the series title and number, dates of the records, county of occurrence, regional depository, quantity, and (rarely) notes explaining anomalies.

The SPINDEX programs were used to produce an index by series number, listing all of the titles and displaying county and dates. This list was used by the Illinois project staff to identify inconsistent titling practices, to reconcile differences, and to assist in drafting the generalized series descriptions. These generalized series descriptions were not entered into the SPINDEX data base as originally planned. Nevertheless, the use of SPINDEX to produce an intermediate listing used as a developmental tool, was invaluable in the process of producing the generalized guide to Illinois county records. At the close of the project this guide was in the editorial phase with the projection that it will be published during the winter of 1982-83.

The Illinois State Archives had hoped to be able to convert their Descriptive Inventory information on state records from IBM MT/ST files to a SPINDEX input format through the use of an IBM System 6, and then transfer coded data to Madison via magcards. However, the expected acquisition of the System 6 never occurred because of a decision to shift this piece of hardware to another department within the Secretary of State's Office. Instead, the MT/ST files were converted to Wang-compatible diskettes by a commercial firm in Chicago. The Wang data version of the Descriptive Inventory has not been edited to supply SPINDEX tags, however; instead the files were written to a standard format computer tape at ADP and returned to Illinois for further editing and for addition to their in-house data base. Because circumstances in Illinois made it more convenient to use their local data base for their primary access system and to produce and update their guide, there was no reason to add their data to the joint SPINDEX data base. If, in the future, a national data base of archival holdings becomes a reality, the Illinois data can be read out of the Illinois data base.

A checklist of the records at the Minnesota State Archives was produced in May 1982 after several samples were tried. This checklist was produced with revised SPINDEX III indexing programs, using the agency name to establish the order and the headings in the checklist. The printed output was produced on ADP's Xerox 9700 laserprinter after having been formatted by SCRIPT, a program developed by the University of Waterloo (Ontario) and made available to us through ADP. After reviewing the checklist, Minnesota had several changes to make in the format, the most significant of which required changing the agency field (tag 131) entries in the data to a dual level format, e.g. "Agency/ Division: Section." This makes possible a more readable checklist using the dual level features of SPINDEX.

We also produced sample administrative reports, including a shelf location list and an accession number list for Minnesota. At the conclusion of the project, other formats were developed for a chronological (decade) list, a subject index, a shelf location list, and an accession number list. Each of these formats depends on the revised versions of SPINDEX III programs A and C, on the use of an interface program, and on SCRIPT.

Wisconsin produced an in-house finding aid, a list in series number order. Each entry includes the office of origin; series title; span dates; quantity; description; notes on finding aids, restrictions, and related

records; and shelf location or locations. This series list is the basic finding aid for archival records for in-house use and is supplemented by an agency index. The agency index provides access by each agency ever associated with the records. (For example, the series "Dams: Correspondence and Plans, 1913-1973" is found under "Railroad Commission," "Natural Resources, Department of," and "Public Service Commission," because each of these agencies had responsibility for this series at different times. Planned, but not yet produced are a subject index and a decade index, as well as several administrative lists: condition/status code list, shelf location list, accession number list, and disposition authorization number list. Each of these indexes is or will be keyed to the entries in the series list by the series number.

Accomplishments

The project's primary goal was to create a data base of archival descriptions and to establish procedures to continue to add to and maintain the data base. In these goals we were successful, particularly for Wisconsin and Minnesota data. The Wisconsin portion of the data base includes descriptions of 2081 series of state records (plus 45 series and 11 record group and subgroup entries from Phase I), 25 county and local record series, 1024 manuscript collections (including 50 series-level descriptions of the Draper collection, 547 mass communications history collections, and 427 social action collections), and 81 series plus 39 record groups and subgroups of records of the University of Wisconsin-Stout. In addition, we have established procedures to create entries for unprocessed records (both for the series or collection and for each accession), and to update and improve these descriptions when the records are processed.

The Minnesota portion of the data base contains descriptions of 2008 state record series (plus 67 series and 15 record group and subgroup entries from Phase I), 202 "dummy" entries used as cross references in the checklist, and 2318 county and local record series entries and 321 record group or subgroup entries for county and local records.

The Illinois portion contains 930 brief entries ("occurrences") for county records and entries for 10 state record groups and 102 series entered during the first phase.

Additional descriptions exist in machine-readable form as Wang documents, which can be edited, coded, and added to the data base. This includes descriptions of 214 manuscript collections and 504 county and local record series as published in the UW-Green Bay Area Research Center Guide and 170 manuscript collections and 289 county and local record series published in the UW-Parkside Area Research Center Guide. It also includes 57 series descriptions from the University Archives at the UW-Eau Claire, and the full text of the Illinois 1978 Descriptive Inventory. The Wisconsin descriptions will be coded and entered in the data base but Illinois' descriptions will not be entered at this time.

A secondary goal of the project was to publish guides, checklists, and other finding aids. Each of the three states is committed to produce published versions of the finding aids produced during the project, although these publications will not be in a form as elaborate as the prototype or the Illinois Descriptive Inventory. Minnesota will publish a checklist based on the checklist produced at the conclusion of the project; Illinois will publish their county records guide, and Wisconsin will produce a new edition of their Guide to Archives. Camera-ready copy for a guide to the archives of the University of Wisconsin-Stout has also been produced but not yet published.

An important product of this project which has significance for other projects using SPINDEX was the development of alternative output options. We maintain that archival finding aids should be as timely and as up-to-date as possible. But the high cost of producing photocomposed guides, and the necessity of publishing enough copies to keep the unit cost reasonable, creates a situation where issuing frequent updates becomes an expensive and wasteful process. Our approach is to sacrifice aesthetics for utility: to use the laser printer or a letter printer (typewriter) to produce the

camera-ready copy and to use quick-print offset processes to produce guides in small editions. From both the cost and psychological point of view, such inexpensive and perhaps inelegant publications are easier to replace with new editions.

The project succeeded in demonstrating the feasibility of using a computer data base to produce finding aids and administrative lists. Significantly, it demonstrated that it was not necessary to compromise descriptive practices; to the contrary, we found that the quality of our finding aids has improved by adhering to the data base design.

Although our indexing research done as part of our third goal may seem disappointing when compared to our expectations, we feel very satisfied with our main conclusion: namely, that a national subject authority list for archives is not a practical possibility. Each institution has its own legitimate reasons to develop its own subject access systems; each has its own collection focus, clientele, institutional environment, policies, and philosophies. Beyond this, we concluded that a more ideal and cost effective system will depend on the development of computer systems which allow full-text searching of the descriptive abstracts using natural language. Each of the state archives benefitted from the analysis and discussions of subject indexing principles and each was able to improve their own practices. Illinois and Wisconsin each developed their own authority list. (Copies of these lists are included in the project's reports.) Minnesota plans additional experiments in subject indexing.

Participation in the project helped make all of the staff more computer literate. This has had particular value for work on two other NHPRC-funded projects, the Wisconsin Survey of Machine-Readable Records and its successor, the Wisconsin Machine-Readable Public Records Project, and for the introduction we have had to the world of word processing and telecommunications. We have been able to observe the progress and problems of archival automation with a greater appreciation and understanding and have been able to more objectively analyze the evolution of descriptive practices in the profession. We have been able to confidently contribute to the AACR2 manuscript chapter revision. Staff has followed the activities of NISTF with interest and the project director has actively participated as an NISTF member and as an NHPRC-projects representative on the NISTF working group on standard data elements. He has also served on the Research Libraries Group task force on a manuscript format for RLIN.

These experiences have also resulted in a closer analysis of existing information systems for administering archival records and for producing finding aids. We have been forced to evaluate the data elements used in describing our holdings and to be more precise in their definitions; we have had to determine which data elements are to provide access points; and we have begun to evaluate how information flows from one function in an archival system to other functions, and how an information system can produce administrative reports, action lists, and management information. While we are still not as sophisticated about these things as we should be, at least we have been introduced to the concept of a comprehensive information system.

The concept of a "regional computer processing center" was found to be feasible under certain circumstances. In spite of some qualifications and problems (described below), and after analysis of the costs, Minnesota plans

to continue to use the Wisconsin processing facility beyond the grant period. It was determined that, using student labor, and accounting for supervision costs, overhead, and computer time, each record series can be entered for less than $1.00; since the charges are determined primarily by data entry time, briefer descriptions will cost less, and more complete ones, more. The cost of producing printed reports, at least for the sample tests, has been about $30.00 each, once the formats have been established. The cost of developing new formats is about $100 to $200 each, depending, of course, on the size and complexity of the report.

The project staff participated in the activities of the SPINDEX Users' Network and shared the products of their work with SUN members and with other NHPRC participating projects. In particular, the new loader program developed at Wisconsin was shared with the Kentucky project, as were Wang "glossaries" (programs) developed for the project.

Among the other accomplishments was the development of new variations of SPINDEX programs. The first of these was a new loader program which takes data from the Wang (but, in fact, can take any card-image data laid out according to a specific format). This program converts the input data to an ARSP10 file, which is then processed by SPINDEX programs ARSP2 through ARSP4, the file maintenance programs. (For further details, see Report on Data Entry Alternatives.)

More significant was the development of replacements for SPINDEX programs SPIN3PA and SPIN3PC, the indexing and photocomposition formatting programs. The new programs were written in the language PL-1 by Mark Foster of the University of Wisconsin-Madison's Administrative Data Processing under the direction of the project director. The new programs are not only much more straightforward but they are more general. New SPIN3PA allows for the selection of more fields as keywords and for more fields to follow the keywords; it provides for additional keyword-generating functions; it provides a means of retaining records which do not have tertiary fields; and it creates an uppercase sort field while still retaining the keywords in upper and lower case as entered. New SPIN3PC allows fields to be selected in any sequence; it allows photocomposition codes to be entered at the beginning and end of the file, at the beginning and end of each keyword and at the beginning and end of each keyword group, at the beginning and end of each secondary word and at the beginning and end of each secondary word group, at the beginning and end of each record, and at the beginning and end of each field, and at the beginning and end of each field group; it also allows the user to by-pass, in output, the keywords, secondary words, or fields or to replace fields with constant data; and it provides, in each of these instances, space for up to 670 characters of photocomposition code or other data to be imbedded.

These programs have been used by the MSAGP for the production of finding aids. "Photocomposition" codes (really SCRIPT commands) are entered into the file and the output is run through an interim program to produce a SCRIPT input file. The output of SCRIPT is then printed on the lineprinter, a laser printer, or routed to Wang word processors where it is edited and then printed. The same process has been used to produce files which can be run on the State of Wisconsin's photocomposer, "WISCOMP."

More details about these programs are available from the State Historical Society of Wisconsin and in the SUN Newsletter.

We found that the file format produced by SPINDEX programs SPIN3PF and SPIN3PE was not readable by local photocomposers nor by SCRIPT. We therefore had a reformat program written. The program breaks the SPINDEX 3000 byte record into 80 byte records, with a new record beginning wherever a delimiter is encountered or at the last space before column 80. The delimiters, which are named by the user on parameter cards, are imbedded into the data by the SPINDEX programs, or may be found in the data. At least one delimiter must be named, but more than one is possible. For example, we use the commercial "at" sign (@) to indicate a new record which contains a SCRIPT command, and the pound sign (#) to indicate a new record containing data.

The program also allows single character deletions and replacements as specified on parameter cards. For example, we delete the pound sign after it performs its function as a delimiter, and we delete the no-op (+) which is placed into the data to assure correct sorting of certain fields. The replacements are also listed. For example, we replace the "less than" sign (<) and the "greater than" sign (>) with quotes ("), the equal sign (=) with a hyphen (-), and the commercial "at" sign (@) with a period. (The less than and greater than signs are used as open quotes and close quotes, and the equal sign as an endash in photocomposition, but are converted to characters available on the laser printer by this program. The period has a special meaning when it is in the first position of a SCRIPT input file.)

Here is an example of how we utilize this program. We use SPINDEX to imbed the following text before the title field: @IN 5@UL#. That string will come out of the SPINDEX programs imbedded in the file at various places; after processing by the reformat program it will look like this:

```
.IN 5
.UL
[Title]
```

Since SCRIPT commands always begin with a period in the first column of the record, SCRIPT will recognize this as a command to begin by indenting five spaces and underlining the title line.

One other program was developed to facilitate correcting and updating the SPINDEX master file. We had experimented with running the file lister program (ARSP4 with a dummy old master) and routing the output, the ARSP4 diagnostic and error listing, to the Wang. This Wang file could then be edited and used as an input file to update the old master. Because of the format of the ARSP4 listing, however, this process often required extensive editing, especially because lines end in the middle of words. The new program follows the same basic procedures, except it is not necessary to run the data through the ARSP4 program, and the output is in the same format as a Wang input file, namely an 80-character card image record with the tags in columns 1-3 and the data beginning in column 7 (columns 4 and 5 are for the correction codes). If a field continues onto a new line it is broken between words. This program makes updating and correcting the master file much easier: we do not have to rekey entire fields, which reduces the possibility of introducing new errors, and we do not have to keep paper printouts in order to check the precise field tag numbers.

Used with the update program is an ADP utility called SELECT. We use it as a substitute for SPIN3PF, the range selector program. SELECT allows us to select more than one range in a single pass. For example, we can select control numbers NPA00021 to NPA00025 and NPA00100 to NPA00199 and NPA01234 to

NPA01240 and NPA01300 to NPA01300 (a range of 1), etc. It can also select a specified number of records without knowing the precise control numbers, for example, beginning with NPA02000 select the next 100 records. It can also limit the selection to specified levels. This program is used to update the master file, by selecting precisely the records to be changed, and running them through the update program. The records are then edited on the Wang: correction, addition, and deletion codes are added, the information in the field is corrected, and fields which do not need correcting are deleted. The Wang file is then run through the SPINDEX file maintenance programs.

Problems

Although the project accomplished a great deal, it was not an unqualified success. Problems occurred and some project goals were not met. Some of the problems occurred simply because the environment has changed, others because of project management and the difference of goals among the project participants.

A cooperative project, by its nature, requires extraordinary communication between the parties involved. We should have anticipated this and made provisions for a more formal means of communication, including monthly progress reports, conference calls, and meetings. Since each institution had its own set of goals, within the broad outline of the project goals, it was easy to concentrate on them and to let coordination slip. Because of this, and because Illinois was able to develop their own in-house computer facility during the course of the project, they were essentially lost as a data base contributor. Although they were able to achieve the goal of developing local resources because of the funding they received during the project and because of the experiences gained, nevertheless, there could have been a better understanding of the strengths and weaknesses of SPINDEX and of possible ways of transmitting data between the two systems if there had been better communication.

One problem associated with the lack of communication was the diminished role of the NHPRC staff in this project and others like it. When funding for records programs was drastically reduced in 1981, it soon became clear that the NHPRC could not continue to sponsor "National Guide"-related projects. Budget cuts resulted in staff turnover. The result of all of this was that liaison between the project and the NHPRC was limited to a much overworked staff member who had not been involved in the planning of the data base design. Questions about the data base design could not be answered by those who had planned it and there was little coordination of the decision-making process; it soon became apparent that each project was developing its own rules and standards, to meet the needs of their own institutions.

Our plan to develop a comprehensive indexing approach to archival records was clearly naive and overly ambitious. Yet what seems to be a failure in this case is instructive of the scope of the problem yet facing the profession as it considers multi-institutional access systems. We learned that it is critical to the process of indexing who we are indexing for, what size text is being indexed, in what form the index will exist, and to what the references will be made. We never resolved those issues as a group to anyone's satisfaction. Given the various institutional settings, clientele, and perceptions about the use of records, it is unlikely that these issues could have been resolved by this project.

Minnesota and Wisconsin probably underestimated the amount of work required to bring existing data up to the standards needed to enter data into the data base. We assumed that converting existing finding aids would be essentially a mechanical task, but we found that existing descriptions needed a good deal of work, both to assure accuracy and adherence to our descriptive standards and to conform to the data base structure. Minnesota, in particular, found that the number of state as well as county and local records series to be dealt with was higher than expected, and so, in spite of the large number of entries made, their portion of the data base is still not up

to date. Neither Minnesota nor Wisconsin were able to prepare record group and subgroup level administrative histories and descriptions (Illinois record groups are described in their 1978 Descriptive Inventory). Both as a practical matter and because of our fundamental belief that the series is the basic unit of description, we made a conscious decision to concentrate instead on information at the series level. Administrative histories are being compiled and will be added at the time checklists or guides are published.

We also underestimated the time and expense involved in training and supervision of the project data collection and data entry staff, and in editing the descriptions. Each state assumed responsibility for editorial control and each, to varying degrees, found that editorial control was not quite tight enough. This is probably because we were anxious to enter as much data as possible, but also because editorial standards changed over the life of the project. We were also overly optimistic about the time and effort it would take to assign and review indexing terms. This was true during the early phase of the project in particular, when we were trying to develop subject authority lists, but also true later, when trying to assure that the terms conformed to the lists developed.

Another problem for Minnesota was the necessity of having the data entered at a remote location. It was necessary for them to prepare coded sheets, make a copy (for security), mail the sheets to Madison where the information was entered (by people who did not have access to the editors when problems arose), have the proof sheets mailed back to St. Paul, proofread and mark corrections, and return the sheets to Madison for corrections and SPINDEX entry. The cost of making copies, the time involved in mailing entry sheets and printouts, and the lack of day-to-day control over the data entry process, all contributed to a general uneasiness on the part of both Minnesota and Wisconsin about this process. Ideally, Minnesota should have their own data entry hardware so they could do their own data entry and send it in a machine-readable form or via telecommunications to Madison for entry into the data base.

Throughout the course of the project we were able to gain access to additional computing resources: new SPINDEX programs, SCRIPT, SELECT, etc. While this is to our long-term advantage, the necessity of learning how each of these programs worked, and of running tests to see if we could produce the output in the form desired, took a great deal of time. Output formats specified by Minnesota, for example, had to be translated into the proper SCRIPT commands which then had to be entered into the SPINDEX output files using the correct parameter cards. This turned out to be somewhat tricky and resulted in many test runs which failed. It is hoped that once formats are established they will not be changed. If they are, delays and a format development cost must be expected.

This suggests that there is a major problem with projects based on the SPINDEX programs; there are no easy-to-use output options. SPINDEX III was developed for electronic photocomposition output, which is, clearly, not necessary and too expensive for most of the products envisioned by this project. SCRIPT is a reasonable and flexible alternative to photocomposition, yet to take full advantage of it depends an the ability to create rather complicated SCRIPT input files. The efforts of the GSA to write new SPINDEX programs to produce a lineprinter output do not seem to be progressing, and furthermore, do not seem to be very well thought out.

Another problem with the SPINDEX programs is that the files cannot easily be updated. Although we have partially solved this problem with our update program, an on-line system is needed, not only to provide access, but more importantly to provide the ability for archival institutions to keep the information about their holdings current. Also needed is the ability to make global changes in the master file (not just in the output files, as is proposed by the GSA SPINDEX development staff).

Alternative Approaches

This section of the report addresses a hypothetical question, "Knowing what we know now, how would we design this project?" We are now far more sophisticated about computers. We know what minicomputers, word processors, and SPINDEX programs can do and what their limitations are. We are far more realistic about cooperative subject indexing. And this knowledge makes us inclined to isolate the provision of an administrative data base from the provision of an access system, and both from the guide production process.

Using SPINDEX and the NHPRC data base design is probably not the most efficient way to produce guides. A guide, which is essentially a continuous string of text with titles placed in strategic places, does not need all of the content designation found in the NHPRC data base design (that is, a field for each data element). Futhermore, the apparent advantage of being able to preface fields in the data base with strings of photocomposition codes, often turns out to be a disadvantage when dealing with largely textual data because this approach does not easily facilitate exceptions and special cases. What works to produce sales catalogs and telephone directories, where all of the data elements are consistent and must be handled in a uniform manner, will not always work with narrative, descriptive data.

Indexing, another seeming advantage of using a SPINDEX-like system to produce a guide, may also turn out to be an illusion. Since the index to any one volume must be appropriate to that volume, it turns out that the terms initially entered may have to be extensively edited and cross references constructed in order to make the terms meaningful and the index consistent in any specific guide. For instance, in a guide to mass communications collections an anti-war newspaper may be indexed appropriately under "Vietnam War Protest;" in a social action guide where many collections concern that topic, "Vietnam War Protest--Publications" may be a more useful index entry.

An alternative to using the SPINDEX programs directly to produce photocomposition files (or SCRIPT files) is to use a hybrid system, where instead of producing a computer tape for the photocomposer, the SPINDEX-processed files are routed from SPINDEX to a word processor for editing before final production occurs. (This was done by the City of Portland Archives in producing their guide, and it was the method we used to produce the UW-Stout Archives guide.) Such an approach simplifies the guide production process, while it recognizes that guide production is not an automatic routine. The publication of large guides using a process like this is not likely to be very efficient, but this might be the most effective means of producing guides issued on a regular basis.

Still another alternative is to avoid the use of a mainframe computer (and SPINDEX) altogether, and use the word processor to enter, edit, and produce the guides. Each edition would be produced by editing the previous edition. Content designation, except to the extent it is required by the photocomposer, is not needed using this approach. An index could be produced using the word processor. When the guide is updated to produce a new edition, the new index terms would be added to the index file, or citations posted to existing terms. This approach would provide the same output options as using SPINDEX; it is possible to send data from the word processor to an electronic photocomposer; to a computer-driven lineprinter, laser printer, or COM recorder; or to print it on a typewriter-quality printer. Because of the

flexible and easy-to-use editing capabilities of the latest generation of word processing equipment, updating these files for each edition would be a relatively easy task. Word processors provide the ability to search for and to search-and-replace character strings within the text, and thus to replace bad data as well as to replace, imbed, or delete photocomposition codes.

The goal of a published guide is to disseminate information about our holdings, but perhaps there are other means of achieving this goal without producing a guide. One alternative is to enter descriptive data about our holdings into one or more of the existing bibliographic systems. While the current MARC formats are generally unsatisfactory for description of archival material, a new MARC format has been developed by the Library of Congress with the cooperation of the SAA, and if adopted by the bibliographic utilities (OCLC and RLIN), promises to provide an alternative to guides. Entry of descriptive data into such bibliographic systems might well impose an overhead cost on archival institutions, but the cost may be worth it if it disseminates information about our holdings and eliminates the need for and the cost of a published guide. To use a Wisconsin example, if descriptions of State Historical Society of Wisconsin archival and manuscript holdings were entered into the OCLC system by SHSW library catalogers, catalog card sets would be filed in the UW main library catalog and in the SHSW library card catalog, as well as in the Archives Reading Room catalog as at present. This would improve access to our holdings by better calling them to the attention of researchers on campus. More importantly, the OCLC files for Wisconsin libraries form a statewide data base from which checklists and bibliographies can be generated. And the UW libraries (of which the SHSW is an associated member) are beginning to use the OCLC files as the basis for an on-line access and circulation system to be extended to all of the branch libraries. The SHSW Archives Division could take advantage of this system. Furthermore, once in the OCLC file, the descriptions are in a standard exchange format, which can be used to feed into other systems.

Having separated the guide production function and the access functions from the data base, there are other needs that should be met by a data base management system. Among these are scheduling, monitoring, and recording the actions which are associated with a particular series or collection. Typical actions are "transfer to records center," "accession," "microfilm," "lift restriction," etc. The data base management system should alert the archivist when it is time for actions to occur (work to be done) and generate exception lists; and it should produce monthly status reports, production reports, and annual statistics. It should serve as the principal means of controlling archival records and of documenting the actions taken with them.

Such an in-house archival information system could be designed around SPINDEX as we tried, to a limited extent, to do as part of this project. However, it makes more sense to use a minicomputer with a "list processing" or data base management capability, or (if the number of collections or series is small) even a microcomputer with a data base management system. Such systems provide the archivist with the tools needed to manage the collections, without the overhead of using a mainframe computer and SPINDEX and without the batch processing limitations of SPINDEX.

An ideal system, of course, would be one in which all information about archival holdings within an institution would be found. Such a system would provide in-house access through a descriptive system which could be searched

on-line and in which data could eventually be written out in a standard exchange format for transfer to multi-institutional access systems; it would serve as a comprehensive collection management system and would provide management information; and it would be used as a "circulation" system to provide information about the use of records and a profile of archives users. Such a system might serve as a source for the production of guides and indexes as one of its multiple functions, but this would not be its principal function.

None of these alternative approaches answer a more fundamental question, "To what extent is a multi-institutional cooperative descriptive data base possible?" We have learned from this project that the descriptive and indexing practices used by each institution are probably inconsistent with the requirements of a cooperative project. In order to assure consistency, an unacceptable amount of overhead is required. This is not to say that inter-institutional general or subject guides and checklists are not possible or worthwhile. Nor is it to say that a comprehensive information system within each participating institution would not facilitate the production of such a finding aid. However, the expectation that such a cooperative publication could be created automatically, without editorial intervention is unrealistic.

If we were planning this project now, its goals would be more modest; we would emphasize the establishment of internal control systems rather than a multi-repository descriptive system. In particular, we would propose a project which would use the new MARC format for archives and manuscripts and the new "cataloging" rules for state archival records in order to determine their applicability.

The Midwest State Archives Guide Project was conceived when automated archival access and information systems were in their infancy and during a time of high expectations. The project grew up during a time of intensive study and analysis of the needs of archivists in this area. Our project both benefitted from and contributed to these studies. We feel fortunate that we could be involved in a pioneering project and hope that those who follow us in undertaking automation projects will benefit from our experiences.

APPENDIX 1

PUBLICATIONS AND PAPERS GENERATED
FROM PARTICIPATION IN THE
MIDWEST STATE ARCHIVES GUIDE PROJECT

Marion Matters, Presentation on administrative reports generated from MSAGP data base using SPINDEX with basic discussion of SPINDEX, presented at the annual meeting of NASARA, July 1981.

Lydia Lucas, "Efficient Finding Aids: Developing a System for Control of Archives and Manuscripts," American Archivist, 44 (Winter 1981), 21-26.

Lydia Lucas, Participant on Roundtable: Standard Data Elements for Archives and Manuscripts Information Systems, at the spring meeting of the Midwest Archives Conference, Chicago, Illinois, May 1980.

Marion Matters, Workshop on Indexing, presented at the annual meeting of the Society of American Archivists, Berkeley, California, September 1981.

Karen Baumann, "Subject Access: Today's Options and Tomorrow's Possibilities," paper presented at the annual meeting of the Society of American Archivists, Berkeley, California, September 1981.

Max J. Evans, "The Midwest State Archives Guide Project: A Status Report," paper presented at the annual meeting of the Midwest Archives Conference, Chicago, Illinois, May 1979.

Max J. Evans, "Prospectus for a Regional Approach to Archival Automation," paper presented at a Symposium on Archival Automation, University of Maryland, College Park, Maryland, April 25, 1980. Published as "Midwest State Archives Guide Project" in Lawrence J. McCrank, ed., Automating the Archives: Issues and Problems in Computer Applications (White Plains, NY: 1981), 85-92.

Max J. Evans, "Needs and Priorities: A National Information System for Archives and Manuscripts," remarks presented at a Symposium on Archival Automation, University of Maryland, College Park, Maryland, April 26, 1980. Published as "Comments" in Lawrence J. McCrank, ed., Automating the Archives: Issues and Problems in Computer Applications (White Plains, NY: 1981), 233-236.

Max J. Evans, "The Midwest State Archives Guide Project: An Update Report," paper presented at the fall meeting of the Midwest Archives Conference, Milwaukee, Wisconsin, October 1980.

APPENDIX 2

A COMPARISON OF NATURAL LANGUAGE ACCESS AND ASSIGNED TERM INDEXING

Participants in the Midwest State Archives Guide Project recently conducted an experiment on subject access to public records. The experiment aimed at comparing the usefulness of an index of subject terms assigned to the series descriptions from an authority list, with the usefulness of an index consisting of the natural language terms comprising the narrative series descriptions. The issue which prompted the experiment was the contention that natural language would provide equally successful access and therefor the labor intensive and intellectually demanding process of maintaining an authority list and assigning terms from it could be abandoned.

Two primary questions needed to be addressed: Would a natural language index be equally or more successful than assigned terms in an on-line system with Boolean search capacities? Would it be a viable alternative to assigned terms as a printed index?

The experiment involved descriptions of 484 series from 13 different record groups in the Wisconsin State Archives. These descriptions had been entered into a data base compatible with the National Historical Publications and Records Commission's national archives and manuscripts data base design. It utilizes the SPINDEX programs developed and supported by the National Archives.

What we were comparing was access through an index consisting of subject terms assigned by catalogers from an authority list which was created as the series were described and indexed, to access through the natural language terms used in the narrative abstracts (fields 261 and 27X) describing the same series. To address the first question on the relative effectiveness of the two approaches in an on-line system, we attempted to simulate a Boolean search of the natural language descriptions; and to address the second on the two approaches in print form we permuted these descriptions and printed the resultant index. We did not conduct well-designed analysis of our two indexes, attempting to control variables and subjecting the results to mathematical manipulation. Therefore we offer our conclusions somewhat timidly, as indications of what more scientifically constructed experiments might reveal more reliably.

The question "Would a natural language index be equally or more successful than an assigned term index in an on-line system with Boolean search capacities?" was very difficult to answer. The difficulty came primarily from the fact that we didn't have our sample in an on-line system with Boolean search capacities. So after devising our experimental questions,

we had to simulate how such a system would respond to them. We wanted to learn if the concepts in our assigned terms were expressed in the natural language abstracts and beyond this if the abstracts also contained more specific terms or concepts not included in the assigned terms.

We selected a group of 50 series descriptions and conducted a comparison of their assigned index terms with the words appearing in the abstracts. In analyzing whether the concepts of the assigned terms could be reached via the natural language, we found that in 33 series all the concepts were expressed in the same words or in synonyms, in seven series some of the concepts were expressed, and in seven series none of the concepts were expressed. (Three of the series had no subject terms assigned to them so were not included in the preceding figures.) Our answer then was that for our sample using the natural language abstracts could provide virtually the same access as using the assigned terms roughly 80% of the time. We next addressed whether it also could provide more specific access or access to additional concepts? We found that in 30 of the 50 series descriptions (60%), natural language did provide more specific access within the concept of the assigned term index; the number of more specific terms ranged from one to eleven with the vast majority being three or fewer additional terms. In addition in 14 of the 50 series descriptions (28%), natural language included concepts not represented in the assigned terms; the range this time was from one to five more with the majority being just one more. In general then, we concluded that natural language can give as good or better subject access than assigned terms.

The next obvious question was, though it could give better access, would it? Would searchers reach the concepts expressed without the standardization of language and the cross-references provided by the usual index of assigned terms? To obtain an indication of this, we gave a student employee a list of five concepts from our derived index and a brief explanation of how an on-line boolean system works. Her task was to devise a search strategy for each concept, thinking of synonyms and various word combinations to search for. She spent a total of 25 minutes on the task, or roughly five minutes per concept. We offered no further advice and the resulting strategies were far from sophisticated. But they got respectable results, summarized in Table 1 below.

Table 1: Number of citations obtained

Concept	Assigned Terms		Natural Language
	Counting only citations found under the concept itself	Also counting relevant citations under terms referred to from the concept	
Wildlife Management	5	5	6
Juvenile Delinquency	3	10	4
Local Taxation	5	9	7
Traffic Safety	2	2	3
Environmental Protection	3	3	0
Totals	18	29	20

Assessing those results depends upon how one defines the criteria for success. If access via the assigned terms is limited to the words of the concept only, the student obtained more numerous accurate citations with the natural language; natural language results were 111% of assigned term results. If one allows a theoretical searcher to pursue the cross-references found under the concept's words in the assigned term index and to select the relevant citations found, the total number of possible hits increases and the student's natural language results do poorer in comparison; in this instance, the success rate for natural language goes down to 69% of the assigned. The situation is complicated further by the fact that in real life a searcher would have a heuristic relationship with the results of each search; these initial results would usually suggest additional approaches and we can probably assume that this would yield further citations.

We must also note that our student searcher received additional citations to irrelevant series as well. These false drops included cases such as searching the word "delinquents" for the concept "juvenile delinquency" and receiving citations for records on people behind in paying their taxes. In our test, what should be counted as false drops was difficult to define because of the non-heuristic nature of the search. Therefore we have not reached any conclusions on the seriousness of this problem, leaving that issue to more sophisticated experiments. Intuition suggests that public records and published materials may be less subject to false drops than manuscript collections which tend to be less focused in subject matter.

In summary, we emphasize again that the validity of parts of our experiment is questionable since we had just one person formulate strategy and since so much of the procedure was simulated. We point out though that with most of these limitations seeming to work against natural language, it did give good results.

The second question was easier to answer than the first. "Would a natural language index be a viable alternative to assigned terms as a printed index?" No, at least not without a lot of editorial intervention which would largely negate the economic advantages natural language offers. If printed directly as produced, a natural language index would be extremely long, would cost far more out-of-pocket than an assigned term index, and would probably cause much wasted time and frustration for its users.

In reaching these conclusions, we printed the assigned term index for our sample. It consisted of 300 different keywords with series number citations for the 484 series. The computer and printing time for producing this index totalled $14.25.

We then printed an index created by "permuting" the contents of the narrative abstracts describing the series (Fields 261 and 27X). Using a 64-word stop list, the index included 3995 terms printed as keywords. Many of these were invalid however. Of the 3995, 111 consisted of numbers and dates, and 113 were words preceded by typesetting codes or punctuation marks which caused them to sort separately. An additional 875 were judged

not meaningful, that is, not words which were likely to be used as access points. Examples of these were first names and initials, and words such as "all," "formerly," "noting," "made," or "department" which could have been stop words. Of the remaining 2896 "keywords," many were duplicates varying only in word ending or in a final punctuation mark which caused them to sort separately; for example "account", "account.", "account,", "accounting", "accounting,", "accounts", "accounts.", "accounts;", and "accounts," were each printed as a separate keyword. Grouping variations such as these and counting them together as one keyword type, we reached a final figure of 785 meaningful keyword types. The computer and printing time for this index totalled $70.44.

Some of the problems in a printed natural language index are alluded to above, for instance the fact that separate sorts are caused by such things as embedded photocomposition codes and punctuation which precedes or follows a word, or the fact that a potentially huge list of stopwords would need to be compiled. Other problems, such as the splitting up of names and places ("E. L. Jones" accessed under "E.," "L.," and "Jones" and "Fond du Lac" under "Fond," "du," and "Lac") could be overcome at the input stage by linking the words with underscores. However, to get a name to print with the last name first would require intervention. Intervention would also be needed to eliminate duplicate references when the same word occurs more than once in a description.

Probably most serious is the lack of meaning in single words. The references "carriers" and "motor" separately do not denote or connote the concept "motor carriers;" "homes" and "county" are not the same as "county homes." Similarly words which would be very useful with modifiers may be so common that when standing alone they yield many, many references. "School" is an example of this in our sample; it yielded 56 citations, more than most searchers want to pursue. Sometimes this can be gotten around by checking under the least common word, e.g. under "beauty" for the concept "beauty schools." However this won't always work; for example if one wants the concept "work relief," our sample has 40 citations under "work" and 44 under "relief." Like names and places, concepts such as these can be linked at the input stage but the more of this that is done the more the economic advantage of the natural language index over the derived index is reduced.

One further problem involves user expectations. A printed index is a creature with which users are familiar. They think they know how it works and will be less than understanding if a reference under "nature" leads them not to records concerning the natural environment but to a series description including the phrase "the nature of the files." Beyond this, we wonder whether users generally would treat a printed natural language index like the derived indexes they're used to and as a result would miss many relevant references.

With these many drawbacks at both the user stage and the production stage, we feel that when a printed index is needed, natural language can be eliminated as an alternative to the traditional index of assigned terms.

Subject access has in the recent past become an area of great interest in the archives profession. The experiment reported here is but a beginning to the work that needs to be done. The library profession has been working in this area for years without reaching definitive answers. Archivists need to apply what conclusions librarians have reached to our kinds of resources, answer questions on real costs of creating and costs of using the different kinds of systems, and conduct more sophisticated comparisons including manuscript collections as well as public records.

APPENDIX 3

MIDWEST STATE ARCHIVES GUIDE PROJECT DATA BASE DESIGN

Control number and level assignments

Level 3: Repository. Columns 1-8 (8 digits)
Illinois State Archives = 17866355
Indiana State Archives = 18363370
Minnesota State Archives = 28763540
Wisconsin State Archives = 56346720

Level 4: Record group. Columns 9-13 (5 digits)

Level 5: Sub group. Column 14 (1 digit)

Level 6: Series. Columns 15-17 (3 digits)

Level 8: Trailer. Column 18 (1 digit)

Fields and field tag numbers

080 Control Number Substitute*
Enter the control number without the level indicator.

10X Header Entries:
For headings between levels; enter the heading in field 10X with the same record that immediately follows the heading. For example:

Brown County Court Records (level 4)
Civil Cases (level 5)
Bankruptcy Cases (level 6 - field 10X)
Lien Dockets and Indexes (level 6) same record

110 National Access Code - Institution
Enter for all records; this code is the same as the one found in the NHPRC Directory plus the contents of field 111 for each record. This code is derived from columns 1-17 of the control number but is restructured into an easily readable form. Left-leading zeros within each section are replaced with the No-op character (+). For example:

Illinois = IL866-355/++101+-++1
Indiana = IN363-370/+++10A-+10
Minnesota = MN763-540/B++50K-+11
Wisconsin = WI346-720/J++90A--20

111 National Access Code - Records
Enter for all records; the code is derived from columns 9-17 of the control number, but it is restructured into an easily readable form. For example:

000 17866355001010001/6
110 IL866-355/++101+-++1
111 ++101+-++1

120 State Access Code
Use for state-wide projects.

123 Institutional Access Code
Wisconsin plans to enter the series number (the call number) in this field.

124 Old Series Number*
Wisconsin enters the old series when in this field.

125 Guide Entry Number*
Wisconsin plans to enter the entry number (or location of the entry in the guide). This may have to be updated with each edition, in order to allow for changes.

126 Physical Location
Wisconsin uses instead fields 510 and 520.

13X Agency Name*
Used to produce an agency index, and used when the series description is not in hierarchical order. Used at Level 6 only.
Minnesota enters the current (or most recent) parent agency as 13A, previous parent agencies as 13B-Z, and the current agency, division, and section as 131.
Wisconsin enters previous parent agencies as 13A-Z, the current agency as 130, the division as 131, and the section as 132.

140 (14X) Title
Level 4 Record Group Title (use 141-149 for multiple titles; 14A-Z for alternate titles)
Level 5 Sub Group Title
Level 6 Series Title (use 141-149 for variant titles; this field will be used to produce a title index).

143 Birth/Death Years
Use for manuscripts only. Use this form (YYYY=YYYY). The equal sign will be replaced by a hyphen in lineprinter output, and by an en dash in photocomposition.

* Supplied by Midwest State Archives Guide Project; others from NHPRC design.

160 Form of Material
Use for manuscripts or when otherwise appropriate.
Level 4-5 Enter "Records" or other appropriate term.
Level 6 Ordinarily not used with public records. For manuscripts enter "Records," "Papers," or other appropriate term.

200 Earliest Date of Material
Required at level 4-6. If this date is the beginning of a span, follow the date with an equal sign: 1943=. If it is not a span, enter only the date without an equal sign, and do not use field 210.

210 Latest Date of Material
Optional at level 4-6. Wisconsin will enter the latest date of material even if the series is open and more material might be added.

220 Dates of Bulk of Material
Optional at level 4-6. Enter year equal sign year: 1919=1934.

230 Decade*
Optional at level 6. Enter the decades covered by the series in this form:
1850-1859 1860-1869 1870-1879 (this will be a permuting field).
Illinois can use this to produce Appendix IV in their Descriptive Inventory.

240 Quantity (American)
Required at level 6, optional at levels 4-5. Use whatever unit of measurement is used at your institution. Wisconsin plans to enter the quantity both in terms of cubic feet and in terms of the number of containers. For example:
+++25.5 c.f. (36 archives boxes, 18 volumes)
++++0.4 c.f. (1 archives box)
1,000.0 c.f. (1,000 record center cartons)
19 reels of microfilm (16mm)
(The use of the No-op (+) is optional.)

245 Quantity (Metric)
Standards for entering metric quantities are yet to be developed.

260 Occupation
Used for manuscripts only. Select occupation from list.

261 One Sentence Description
Required at levels 4-6. To be used in both the local and national guides.

* Supplied by Midwest State Archives Guide Project; others from NHPRC design.

27X Scope and Content
Enter up to 3-4 paragraphs, each a separate field.

Level 4	Use fields 27A-27Z for agency history
	Use fields 270-279 for description of records
Level 5	Use fields 27A-27Z for description of functions or subdivisions.
	Use fields 270-279 for description of records
Level 6	Use fields 270-279 for description of records

28X Institutional Description
Enter additional paragraphs which are required for your local use. This field will not be used in the national guide or in regional guides.

29X Selective Descriptions
Enter additional paragraphs which are required for your local use. This field will not be used in the national guide or in regional guides.

310 Non-original and Other Non-standard Material
Level 6. Indicate the existence of photostats, xerox copies. or other forms of duplicated material with the records; also the existence of audio-visual, published, or museum material.

330 Arrangement
Level 6. The preamble "Arrangement:" will precede this field in the guide.

350 Microforms
Level 6. Indicate the existence of microforms. The preamble "Microforms:" will precede this field in the guide.

370 Restrictions
Levels 4-6. The preamble "Restrictions:" will precede this field in the guide.

390 Finding Aids
Levels 4-6. The preamble "Finding Aids:" will precede this field in the guide. Note the existence of published or unpublished inventories, guides, registers, shelf lists, special lists, other record series, or other finding aids. Do not enter repository call numbers or other references which will be unclear in a national guide; use, instead, field 39X for such references. Enter titles of other records series in quotation marks.

* Supplied by Midwest State Archives Guide Project; others from NHPRC design.

39X Finding Aids Cross References*
When appropriate, enter the reference numbers of the finding aids referred to in field 390 according to this pattern:
- 391 Enter the contents of field 110 of the cross-referenced records
- 392 Enter the contents of field 111
- 393 Enter the contents of 390 above and of field 123 of the cross-referenced records e.g. "Index to Central Files" (Series 1252).
- 394 Enter the contents of field 125 of the cross-referenced records

400 Project Code
To be entered by "parameter card" with each data entry batch.

410 Related Records*
Levels 4-6. The preamble "Related Records:" will precede this field in the guide. Indicate the existence of related records in the same repository or in other places. Do not enter repository call numbers or other references which will be unclear in a national guide; use, instead, field 41X for such references.

41X Related Records Cross References*
When appropriate, enter the reference numbers of the finding aids referred to in field 410 according to this pattern:
- 411 Enter the contents of field 110 of the cross-referenced records
- 412 Enter the contents of field 111
- 413 Enter the contents of field 410 with the contents of field 123.
- 414 Enter the contents of field 125 of the cross-referenced records.

42X Accession Statement
For manuscripts, enter donor's name and address, date of donation, etc. For public records (level 6 only) enter only accession information which will help to explain the series, such as information about accessions received under unusual circumstances.

43X Donors
Enter names of donors, last name first. Include donors who are the same as the title.

44X Bibliography
Levels 4-6. Enter the full bibliographic citations, with annotations, of works which make extensive use of the records, or of works (other than finding aids) which describe the records.

* Supplied by Midwest State Archives Guide Project; others from NHPRC design.

FIELDS 46X - 49X ARE LEVEL 4 INDEX FIELDS

46X Corporate/Organizational Names Index - Level 4
Enter the names of corporate bodies or organizations which are found in fields 261 and 27X.

47X Name Index - Level 4
Enter the names of individuals who appear in fields 261 and 27X.

48X Subject Index - Level 4
Enter the subjects derived from the content of fields 261 and 27X. These subjects might be events, concepts, geographic places, or topics.

49X Additional Fields Index - Level 4
Enter the names of organizations, individuals, and subjects derived from the contents of fields 28X and 29X.

500 NUCMC Number
Manuscripts only.

FIELDS 510 AND 520 HAVE SPECIAL ADMINISTRATIVE USES AT WISCONSIN AND MINNESOTA

510 Containers and Contents*
Optional at levels 6 and 8. Wisconsin will use this field in conjunction with field 520 to show the location of different portions of the series when the entire series is not at a single place in the stacks. This field will not be used when the entire series is in one place.

520 Location*
Required at level 6, optional at level 8. Wisconsin will use this field to show the location of the different parts of the series. When the entire series is in a single place, this field, at level 6, is used and field 510 is not used.
When the series is in two or more locations, the location of the first portion is entered in field 520 at level 6, and the inclusive containers at that location are entered in field 510. The location of each portion after the first is entered in a unique level 8 record in field 520, and the inclusive containers in the same record in field 510. For example:

* Supplied by Midwest State Archives Guide Project; others from NHPRC design.

520 Location (continued)*

when the entire series is at a single location:

```
000  5634672012345A123/6
***  ***  ***  ***
520  MAD  3M/28/A1-5
```

when the series is in two or more locations:

```
000  5634672023456A321/6
***  ***  ***  ***
Box 1-28 (1896-1932)
MAD 2M/19/GI-H2

000  5634672023456A3211/8
***  ***  ***  ***
510  Box 29-41 (1933-1945)
520  MAD 3 /54/K5-M2
```

These fields will be used to produce lists by series number, and thereunder by container number, showing the locations of the parts of the series. They will also be used to produce a master list by location (sorting on field 520), showing the series number and container numbers.

FIELDS 56X - 59X ARE LEVEL 5 INDEX FIELDS

56X Corporate/ Organizational Names Index - Level 5
Enter the names of corporate bodies or organizations which are found in fields 261 and 27X.

57X Name Index - Level 5
Enter the names of individuals who appear in fields 261 and 27X.

58X Subject Index - Level 5
Enter the subjects derived from the content of fields 261 and 27X. These subjects might be events, concepts, geographic places, or topics.

59X Additional Fields Index - Level 5
Enter the names of organizations, individuals, and subjects derived from the contents of fields 28X.

60X Accession Number
Optional at level 6. Enter the number or code your institution uses to administer new accessions. Wisconsin will use the form YYYY/NNN for accession numbers when known; otherwise use the form YYYY/MM/DD. Use left leading zeros when necessary in the month and day fields. This is a permuting field.

FIELDS 610-640 ARE USED FOR PROJECTS WHICH ARE DESCRIBING CURRENT RECORDS. THESE ARE RECORDS MANAGEMENT FIELDS.

610 Microfilm Date

620 Record Center Transfer Date

625 Archives Transfer Date

630 Destruction Date

640 Retention Schedule

650 Retention Authorization Document
Optional at level 6. This is to be a reference to the document which authorizes transfer to the archives. Wisconsin will enter the RDA number in this form: YY/NNN-iii. Note that the RDA is entered in a form different from that found on the RDA (NNN/YY-ii). Use left leading blanks when necessary to fill in the number and item. This is a permuting field.

FIELDS 66X - 69X ARE LEVEL 6 INDEX FIELDS

66X Corporate/Organizational Names Index - Level 6
Enter the names of corporate bodies or organizations which are found in fields 261 and 27X.

67X Name Index - Level 6
Enter the names of individuals who appear in fields 261 and 27X.

68X Subject Index - Level 6
Enter the subjects derived from the content of fields 261 and 27X. These subjects might be events, concepts, geographic places, or topics.

69X Additional Fields Index - Level 6
Enter the names of organizations, individuals, and subjects derived from the contents of fields 28X.

ACCESSION INFORMATION, LEVEL 7

700 Date received (YYYY/MM)

701 Received by (initials)

702 Received through--agent/office
For public records only; use if this office is different than the records creator.

710 Date accessioned (YYYY/MM)

711 Accessioned by (initials)

720 Value
Used for insurance purposes.

730 Ownership
Used with manuscripts; note "On Deposit." if ownership has not been transferred.

800 Cross References

90X Comments
Minnesota and Wisconsin use this field to describe the physical condition of the records.

91X Comments
Wisconsin uses this field to cite location at a regional depository (ARC).

93X Condition/Status Code*
Optional at level 6. Wisconsin will use to create lists of records needing repair, microfilming, reprocessing, or reappraisal. See list of codes to be used.

94X Regional Depository Selector*
Optional at level 4-6. Wisconsin will use this field to enter the code for the Area Research Center where the records are deposited. This will be used to produce ARC guides and checklists. See list of ARC codes.

95X Geographic Selector
If the records have substantial information about places, enter the geographic selector code: the two-letter postal service code for states in the U.S.; see list for countries outside of the U.S.

96X Subject Selector
If the records have substantial information about the general topics on the subject selector list, enter the corresponding codes. (See subject selector coding list.)

97X Media Selector
If the records consist, all or in part, of media on the media selector list, enter the corresponding codes.

980 NHPRC Selector
Exact use of this field is yet to be defined. However, a series with less than 25 items (pages) will ordinarily be excluded from the NHPRC guide. Enter NG for records to be included; enter NGV if there is some question about whether they should be included; and enter nothing if they should be excluded.

990 Entry/Correction Data
Enter the year and month (YYYY/mm) the record was created or updated.

* Supplied by Midwest State Archives Guide Project; others from NHPRC design.

The following characters are to be used exclusively for the purposes indicated, in order to assure correct photocomposition and lineprinter output.

<	open quotes.
>	close quotes.
=	en dash (between dates)
+	No-op used to maintain sort sequence but deleted in printing.
@	Signals beginning of photocomposition or SCRIPT command.
#	Signals end of photocomposition or SCRIPT command.
@I#	Signals beginning of italics in photocomposition or underscoring in SCRIPT.
@R#	Signals ending of italics in photocomposition or underscoring in SCRIPT.

APPENDIX 4

WISCONSIN DATA ENTRY STYLE SHEET

123 For state records, enter Series ++937 (5 digits). For manuscripts, enter as: US_Mss_++29AF Tape_+627A Micro_+349 (Two spaces between numbers, no periods, underscore between each element within a number, use plus signs so the numeral portion occupies four spaces.)

13X For state records, put the current agency as 130 then work from earliest parent agency forward through time listing parent agencies as 13A, 13B, etc.

14X In a manuscripts collection, if you have two people in the title, code the first name as 140 and put that person's birth and death dates as 141; code the second person as 142 and that person's birth and death dates as 143.

143 If you have both a birth and a death date enter (YYYY-YYYY). If you have just one date, enter (b.YYYY) or (d.YYYY). If you have neither, enter no field 143.

200 & 210 If you need to list more than two dates total you may enter everything up to the last date in field 200 and the last date only in field 210, e.g.

200: 1909, 1950=
210: 1960
200: 1909=1921, 1941=
210: 1960

If 200 ends in anything but an equal sign or no punctuation at all, enter a space+ after the data, e.g.

200: 1971, +

240 Use no "and" between quantity elements; just use commas. Do not capitalize in this field. Use archives (not archive) boxes, record center (not records center) cartons, and flat boxes (for pizza boxes). Do not abbreviate such words as volume or package. For series with microfilm, enter:

n reels of microfilm (16mm)
++++2.4 c.f. (6 archives boxes, 3 reels of microfilm [16mm])
(Use this form even if the microfilm duplicates the papers; indicate the duplication in the 350 field with the standard wording there.)
13 reels of microfilm (1 reel of 35mm, 12 reels of 16mm)

Enter small collections as ++++0.1 c.f. (1 folder).

27X If there are date gaps in the series, say as the last 27X field, for example, "No records exist for 1950=1965."
In manuscripts, use odd numbers for new paragraphs and even numbers to continue paragraphs.

310 If major portions of the collection--other than clippings--are Xeroxed or photostated, enter a statement here, e.g.
This entire collection consists of Xeroxed copies.
Portions of this collection exist only as Xeroxed copies.

330 Use this wording:
...and thereunder chronological.
In chronological segments and thereunder...
By year and thereunder...

350 See attached sheet indicating options and wording. See above instructions for 240. You may or may not need a field 280 also. If the film is all negative and all one size, 280 is not used. Otherwise, 280 spells out which reels are positive and which reels are which size, e.g.
280: All reels are positive.
280: Reel 1 is 35mm; reels 2-13 are 16mm.
280: Reel 1 is 35mm positive; reel 2 is 16mm negative.
If we have a positive copy of someone else's negative, enter at 350: "Master negative held by....".

370 Attempt to word restrictions similarly to this:
Wisconsin Statutes 48.78 restricts access to records such as these. Researchers are referred to the Department of Health and Social Services for information on relevant laws and their interpretation.

390 & 410 Indicate "series title" and "series title" in quotation marks. Say "Contents list" for microfilm and tape reel lists.

393 & 413 Repeat 390 or 410; indicate "series title" (Series ###) and "series title" (Series ###).

420 & 421 Enter statement such as "Presented by John Smith, Madison, Wisconsin, 1980."
Use 420 when the donor is the same as the title or when the donor is the spouse of the person in the title. Use 421 when the donor is someone other than the title person or organization or for such source statements as
Transferred from...
Separated from...
For public records, enter only when the source is unusual and then use tag 421.

500 Enter as 78-++23 80-+234

510 Use the singular, e.g., Box 1-6 (not Boxes).
For distinctions involving fiscal years and date spans we have used entries such as
Box 126-246 (1960/61, Greenfield-1961/62)
Box 1-100 (1900-1931/1935, WF)

510 & 520 Each varying format (except volumes & boxes) requires its own location record.
For maps, enter as: MAD 4 /MAPS
For tape recordings, enter as: MAD Icon/Tape +648A
For disc recordings, enter as: MAD Icon/Disc +153A
For films, enter as: MAD Film Archives
For ARC locations, enter appropriate code instead of MAD. (Also note code at 940, and enter 900 as "This series is at the ____ Area Research Center.")
For microfilm, enter as: MAD 1V/Box ++32-34 for public records and as: MAD 1V/Mss Box ++32-34 for manuscripts.
For small collections, enter as: MAD 4 /14/SC +421.

600 Use left leading zeros to fill these formats:
When you have an accession date but no number: yyyy/mm/dd (e.g., 1955/02/05).
When you have an accession number: yyyy/nnn (e.g., 1971/045 for public records and 1971-045 for manuscripts)
If you have "Prior to 1963": 1963 PRE-1963
(y=year, m=month, d=day, n=number)

650 Use left leading zeros to fill these formats:
yy/nnn (e.g., 68/026) or
yy/nnn-sss (e.g., 68/026-003)

660 When entering another government agency, put the parent government first, e.g., "Wisconsin. Health, Board of" or "United States. Railroad Administration". Put the keyword first as in the health example. Also in corporate entries, put a period, space, space between elements.

95X Do not enter United States.

Punctuation:
Put a period at the end of the data in fields 330, 350, 390, 393, 410, and 413. Use no period after 130, 140, or 240.
In a series of three or more elements, use a comma before the "and".
Use -- rather than space hyphen space in titles.
In titles, space just once after a colon.
Use an equal sign rather than a hyphen in dates.
Italics on = @I#phrase in question
Italics off = @R# Put it directly after phrase in question if phrase is last thing in its field. Otherwise put @R# directly before following word.

If the series being described is an index to other series, (1) list the titles of the series being indexed in 27X (e.g., Indexes "series title," "series title,"...); (2) list the series numbers only in 413 (e.g., Series 1378, 1379,...); (3) do not list any of these in 410.

APPENDIX 5

DATA ENTRY FORMS USED DURING THE PROJECT

Wisconsin Form:

SPINDEX DATA ENTRY - SERIES LEVEL

~~AAA~~	82~~AA~~ _____ 16		
~~AB~~	82~~AA~~ _____		
123	Series ~~AAA~~ 794		
13~~A~~		13~~B~~	
13C		13D	

Agency: Commissioner of Banking 130 | Division: Credit Unions 131 | Subdivision:

Description

260 Annual reports, ~~filed by credit unions as required by~~ in accordance with Section 186.25 of the ~~statutes~~ Wisconsin including statement of assets, liabilities, income, expenses, net profit or loss, credits and debits; dividends memoranda; statement of condition; listing of delinquent loans; corrections; statistical data; officers and employees of the credit union; and related information.

350 Arrangement: ~~By year span~~ Chronological segments: 1936-1945, 1946-1956, ~~and~~ thereunder alphabetical~~ly~~ by municipality, and ~~then credit union~~ thereunder by.

280 ~~Note~~: The records were microfilmed and the hard copy discarded in 1979. Reports for some years were missing at the time the records were filmed.

350 Available only on microfilm

Accession Number	Dates of Records	Location	Arch. Boxes	R.C. Boxes	Vols.	Accession Number	Dates of Records	Location	Arch. Boxes	R.C. Boxes	Vol
1956 and 1967	260 350 1936-1956	film vault	16 reels		16mm	microfilm					

Series ~~794~~ 794 Annual Reports of Credit Unions, ~~1936-~~. 140

BEST COPY

260 Annual reports, ~~filed by credit unions as required by~~ Section 186.25 of the ~~statutes~~ including statement of assets, liabilities, income, expenses, net profit or loss, credits and debits; dividends memoranda; statement of condition; listing of delinquent loans; corrections; statistical data; officers and employees of the credit union; and related information.

330 Arrangement: ~~By year span~~ Incomplete run segments: 1936-1945, 1946-1956, ~~and~~ thereunder alphabetically by municipality, and ~~then~~ credit union.

280 ~~Note~~: The records were microfilmed and the hard copy discarded in 1979. Reports for some years were missing at the time the records were filmed.

350 Available only on microfilm

Accession Number	Dates of Records	Location	Arch. Boxes	R.C. Boxes	Vols.	Accession Number	Dates of Records	Location	Arch. Boxes	R.C. Boxes	Vol
1956 and 1967	1936-1956	film vault	16 reels	16mm microfilm							

Series ~~794~~ 1 Annual Reports of Credit Unions, ~~1936~~. 140

220 230 (1930-1939), (1940-1949), (1950-1959)

240 c.f. (16 reels 16mm microfilm)

510

520 MAD # LV/80-1/465-467

530 1956, 1967

550 None

900

110

130 940

950 UCI 951 952 953

960 BH. 961 962 963

970 PR 971 972 973

980 NG

990 ----/--

1000 Credit unions & Annual reports

45

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000 28763540 ~~12222E012~~ /6 600 [illegible]

110 MN763-540/ ~~21115E-12~~

MINNESOTA STATE ARCHIVES
SPINDEX SERIES ENTRY

121 ~~C5-E-12~~

Record Group: 13A Education Department
131 Education ~~Department~~ School Buildings ~~Division~~ Dept:

Subgroup: 650 none

Series: 140 Post-War Planning Files

Dates: 200 1941 - 210 1949
230 1940~~0~~-~~2~~1949

Quantity: 240 ~~!!!!~~0.5 c.f. (~~14~~ 12 folders and 1 one size folder)

Location: 510 12 folders
520 51.H.!4.10F

Description/Box List

261 Surveys and project plans; ~~charts of current facilities and projected needs in school building planning;~~ correspondence with program directors, state and local officials, school superintendents, architects, and contractors; and planning proposals, program reports, ~~brochures~~, brochures, and newsletters relating to all aspects of school building and to overall community planning as well.

270 Apparently a special file series maintained by I. O. Ingolf Friswold, director, Buildings and Business Administration.

420 No accessions information available.

330

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000 28763540 [illegible] Title: [illegible]

SPINDEX SERIES ENTRY - Index Terms and Selectors

67X	Personal names from fields 261, 27X	Corporate names from fields 261, 27X	
670	Friswold, Ingolf O.	660	
671		661	
672		662	
673		663	
674		664	

68X	Subject terms from fields 261, 27X		
680	~~[illegible]~~	685	
681	[illegible]	686	
682		687	
683		688	
684		689	

69X	Personal names from fields 28X, 91X		
69A		69F	
69B		69G	
69C		69H	
69D		69J	
69E		69K	

69X	Subject terms from fields 28X, 91X		
690		695	
691		696	
692		697	
693		698	
694		699	

SELECTORS

94X Regional Depository	95X Geographic	96X Subject	97X Media	980
940	950	960	970	
941	951	961	971	
942	952	962	972	

SPINDEX DATA ENTRY
OVERFLOW RECORD: LOCATIONS

000 28763540 [illegible]/8

110 MN763-540/_____ 25 F. 2

131 Education ~~Dept: [illegible]~~ School Buildings Div

140 Post-War Planning Files

510 Oversize folder

520 [illegible] (do)

---

000 28763540 _____/8

110 MN763-540/_____

131

140

510

520

---

000 28763540 _____/8

110 MN763-540/_____

131

140

510

520

---

000 28763540 _____/8

110 MN763-540/_____

131

140

510

520

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APPENDIX 6

ILLINOIS COUNTY RECORDS APPROACH AND DATA BASE DESIGN

The main points of the Illinois State Archives' participation in the local records phase of the Midwest State Archives Guide Project are:

1. Illinois has developed a descriptive approach to local records which works and promises to avoid repetitive effort;
2. Some type of automated administrative control was an absolute prerequisite for the approach in 1) to be successful.

In brief, Illinois describes the record series once, as, Assessor's Books, and appends to this single description the name of each county which has transferred Assessor's Books to the Illinois Regional Archives Depository system; the exact year dates of that county's Assessor's Books; the quantity, expressed either in cubic feet, number of volumes, or rolls of microfilm; whether the record is indexed; and a seven digit accession number for that particular occurrence.

In practice, this method works quite well. County records do run to type, and formats are generally prescribed by statute for the most important ones. A single standardized description, once written, also promises to reduce much of the work involved in preparing inventories of each record.

The Illinois local records guide will then consist of a section containing series description, with their county by county occurrences, a section which organizes all records by county, thereunder by series number, and a subject index. In the preparation of this guide, seven computer programs were written by the Illinois Secretary of State's Data Processing personnel, which manipulate the records so that they may be grouped easily and quickly for this approach. Judging from the results of experiments which were also conducted with Spindex III via the Wisconsin Historical Society, Spindex could have accomplished this also.

However, immediate access to the data base was an important consideration, and movement of data through Wisconsin inevitably produced delays and a certain amount of temporary confusion. I should emphasize that this delay/confusion is an inevitable result when one institution is brokering another's data, and reflects in no way on Wisconsin. However, the lesson remains. An institution should strive to have direct control of its own data.

For much the same reason, it was mutually decided by Wisconsin and Illinois that encoding complete data which could produce a printed guide was burdensome administratively and financially. Simply put, automation was most significant in the guide development stage. Once the complexities of this had been reduced by the use of a computer, production of a guide could proceed with efficiency on a conventional, manual basis.

Illinois expects to have its guide to local records at press this winter (1982-1983). Series descriptions have already been completed, subject index terms have been developed, and administrative histories are being written.

In summary, automation played a vital role in the production of this guide, and tests were conducted which confirmed the supposition that Spindex could serve as the system which accomplished this. The fact that Spindex did not, ultimately, play a greater role depended on administrative and geographic factors. Although Spindex could have done this, however, and probably would have if data transmission problems had been smoothed out, we at Illinois believe that other, less cumbersome automated systems can accomplish this with less expenditure of time and effort.

MIDWEST STATE ARCHIVES GUIDE PROJECT DATA BASE

ILLINOIS COUNTY RECORDS DATA BASE

Control number and level assignments

000 17866356rrgsssccc

Level 3: Repository. Columns 1-8 (8 digits)
Illinois State Archives = 17866356

Level 4: Record group. Columns 9-10 (2 digits, rr)

Level 5: Sub group. Column 11 (1 digit, g)

Level 6: Series. Columns 12-14 (3 digits, sss)

Level 7: County code. Columns 15-17 (3 digits, ccc)

Fields and field tag numbers

085 Alternate Control Number/County Sort Key
Level 4 Enter columns 9-10 of control number
Level 5 Enter columns 9-11 of control number
Level 6 Enter columns 9-14 of control number
Level 7 Enter columns 1-8, 15-17, & 9-14 of control number (in that order). For example:

000 1786635601A001102/7
085 1786635610201A001/7

111 National Access Code - Records
Enter for levels 4-6; the code is derived from columns 9-14 of the control number, but it is restructured into an easily readable form.
For example:

000 178663560iA001/6
110 IL866-356/+1A-++1
111 +1A-++1

Enter the access code at level 7 exactly as at level 6:

000 1786635601A001001/7
110 IL866-356/+1A-++1
111 +1A-++1

123 Institutional Access Code
At levels 4-6, enter the record group and series number in this form: 1.1, 99.103, etc.
At level 7, enter these numbers in the same form as at level 6.

130 Name of the County
Required at level 7; do not enter at other levels. Printed in the main guide under the general series descriptions. Also used to produce an index by county. Include the code for the Regional Repository in parentheses. For example:

130 Adams County (WIU)

140 (14X) Title
Level 4 Record Group Title (use 141-149 for multiple titles)
Level 5 Sub Group Title
Level 6 Series Title (use 141-149 for variant titles; this field will be used to produce a title index).
Level 7 Series Title. Repeat the title in exactly the same form as found in field 140 at level 6. This title will not be printed in the guide, but it will be printed in the county index.

160 Form of Material
Level 4-5 Enter "Records" or other appropriate term.
Level 6 Ordinarily not used with public records.
Level 7 Do not use.

200 Earliest Date of Material
Required at level 7, do not use at levels 4-6. If this date is the beginning of a span, follow the date with a hyphen: 1943 - . If it is not a span, enter only the date without a hyphen, and do not use field 210.

210 Latest Date of Material
Optional at level 7, do not use at levels 4-6.

230 Decade
Optional at level 7, do not use at levels 4-6. Enter the decades covered by the series in this form:
1850-1859 1860-1869 1870-1879 (this will be a permuting field).
Use this to produce Appendix IV in the Descriptive Inventory.

240 Quantity (American)
Required at level 7, do not use at levels 4-6.

261 One Sentence Description
Required at levels 4-6, do not use at level 7. To be used in both the local and national guides.

NARRATIVE DESCRIPTIONS

The descriptions found in fields 27X - 42X can be either general, that is they apply to all counties, or they can be specific to a particular county. The general descriptions are entered in the first field of the level 6 records. Specific descriptions are ordinarily entered only in the field which ends with a "9" (i.e. 279). However, if the specific information could replace the general information in a county guide, it should be entered in the first field in the group, the one ending with a "0" (i.e. 270).

27X Scope and Content
Enter up to 3-4 paragraphs, each a separate field.

28X Institutional Description
Enter additional paragraphs which are required for your local use. This field will not be used in the national guide or in required guides.

29X Selective Descriptions
Enter additional paragraphs which are required for your local use. This field will not be used in the national guide or in required guides.

310 Non-original and Other Non-standard Material
Level 7. Indicate the existence of photostats, xerox copies. or other forms of duplicated material with the records; also the existence of audio-visual, published, or museum material.

330 Arrangement
Level 6. The preamble "Arrangement:" will precede this field in the guide. (Use field 330 at level 7 to indicate an arrangement which deviates from the standard arrangement described at level 6)

350 Microforms
Level 7. Indicate the existence of microforms. The preamble "Microforms:" will precede this field in the guide.

370 Restrictions
Levels 4-6 for restrictions which apply in all cases. Use field 379 at level 7 for specific restrictions that apply only in specific counties. The preamble "Restrictions:" will precede this field in the guide.

390 Finding Aids
Level 7. The preamble "Finding Aids:" will precede this field in the guide. Note the existence of published or unpublished inventories, guides, registers, shelf lists, special lists, other record series, or other finding aids. Do not enter repository call numbers or other references which will be unclear in a national guide. Enter titles of other records series in quotation marks.

400 Project Code
MIDWEST. To be entered by parameter card.

410 Related Records
Levels 4-6. The preamble "Related Records:" will precede this field in the guide. Indicate the existence of related records in the same repository or in other places. Do not enter repository call numbers or other references which will be unclear in a national guide.

420 Accession Statement
For public records (level 7 only) enter only accession information which will help to explain the series, such as information about accessions received under unusual circumstances.

FIELDS 46X - 49X ARE LEVEL 4 INDEX FIELDS

46X Corporate/Organizational Names Index - Level 4
Enter the names of corporate bodies or organizations which are found in fields 261 and 27X.

47X Name Index - Level 4
Enter the names of individuals who appear in fields 261 and 27X.

48X Subject Index - Level 4
Enter the subjects derived from the content of fields 261 and 27X. These subjects might be events, concepts, or topics.

49X Additional Fields Index - Level 4
Enter the names of organizations, individuals, and subjects derived from the contents of fields 28X and 29X.

FIELDS 56X - 59X ARE LEVEL 5 INDEX FIELDS

56X Corporate/Organizational Names Index - Level 5
Enter the names of corporate bodies or organizations which are found in fields 261 and 27X.

57X Name Index - Level 5
Enter the names of individuals who appear in fields 261 and 27X.

58X Subject Index - Level 5
Enter the subjects derived from the content of fields 261 and 27X. These subjects might be events, concepts, or topics.

59X Additional Fields Index - Level 5
Enter the names of organizations, individuals, and subjects derived from the contents of fields 28X.

60X Accession Number
Optional at level 7. Enter the number or code your institution uses to administer new accessions.

FIELDS 66X - 69X ARE LEVEL 6 INDEX FIELDS

66X Corporate/Organizational Names Index - Level 6
Enter the names of corporate bodies or organizations which are found in fields 261 and 27X.

67X Name Index - Level 6
Enter the names of individuals who appear in fields 261 and 27X.

68X Subject Index - Level 6
Enter the subjects derived from the content of fields 261 and 27X. These subjects might be events, concepts, or topics.

69X Additional Fields Index - Level 6
Enter the names of organizations, individuals, and subjects derived from the contents of fields 28X.

990 Entry/Correction Data
Enter the year and month (YYYY/mm) the record was created or updated.

APPENDIX 7

SAMPLE OF WISCONSIN AND MINNESOTA REPORTS

Series 1281 Public Service Commission. Administration. Central Files
Formal Case Records: Federal Power Commission, 1937 -1973. 121.0 c.f. (121 record center cartons)

Records of formal cases relating to the regulation of dam construction on navigable rivers, to natural gas pipelines, and to interstate transmission and distribution of electricity, in which the Commission appeared before the Federal Power Commission as an intervenor in behalf of the state or as a party to the case. Files include correspondence, applications, orders, briefs, reports, complaints, notices, petitions, decisions, statistical data, charts, maps, photographs, and transcripts of testimony.

ARRANGEMENT: By case numer, with prefix FPC.

FINDING AIDS: Register, and "Index to Numerical Case Files" (Series 1255).

RELATED RECORDS: "General Correspondence" (Series 1254) and "Natural Gas Pipeline Papers, Federal Power Commission" (Series 1350).

LOCATION:

Box 1-94 (FPC 1-213) MAD 2M/10/J7-11/E4
Box 95 (FPC 44, 58, 75, 87) MAD 2M/11/E5
Box 96-104 (FPC 180-196) MAD 2M/12/J3-7
Box 105-121 (FPC 197-351) MAD 2M/18/G5-H4

Series 1283 Public Service Commission. Administration. Central Files
Formal Case Files: Declaratory Rulings, 1945 -1961. 2.0 c.f. (2 record center cartons)

Records on the Commission's declaratory rulings which are issued at the request of the petitioner under Ch. 227.06 of the Wisconsin Statutes to determine the applicability of rules and statutes enforceable by the Commission as related to a specific property or situation. Files contain petitions, correspondence, transcripts, exhibits, opinions, and rulings of the Commission.

ARRANGEMENT: By case number, with prefix DR.

FINDING AIDS: Card Index at Public Service Commission, Central Files.

LOCATION:

MAD 3 /49/H7

Series 1286 Railroad Commission
Railroad Informal Case Dockets, 1905 -1919. 4.5 c.f. (17 volumes)

Historical summary of informal cases assigned the prefix IR concerning railroads brought before the Commission, showing date of complaint, subject, dates of letters written, date each case closed, and occasional notations of outcome.

ARRANGEMENT: Chronological by date of complaint.

FINDING AIDS: Index in each volume by name of complainant.

RELATED RECORDS: "Railroad Informal Case Files" (Series 1257).

LOCATION:

MAD 3 /32/K6-7

WISCONSIN STATE ARCHIVES AGENCY INDEX

Athletic Commission
- Athletic Commission. Correspondence, 1937-1961 Series 766
- Athletic Commission. Managerial Agreements and Insurance for Bouts, 1929-1961 Series 775
- Athletic Commission. Minutes, 1913-1935 Series 764
- Athletic Commission. Records of Amateur Boxing Clubs, 1937-1961 Series 767
- Athletic Commission. Records of Professional Boxing Clubs, 1937-1961 Series 768
- Athletic Commission. Reports: Athletic Clubs, 1930-1956 Series 765

Attorney General
- Justice, Department of. Attorney General Bronson C. La Follette: Miscellaneous Subject File, 1965-1968 Series 643
- Justice, Department of. Attorney General Bronson C. La Follette: Press Releases, 1965-1968 Series 646
- Justice, Department of. Attorney General Bronson C. La Follette: Speeches, Statements, and Testimony, 1965-1968 Series 645
- Attorney General. Attorney General John Reynolds' Correspondence, 1959-1960 Series 1951
- Attorney General. Clarence W. Berrum Papers, 1938-1947 Series 642
- Justice, Department of. Closed Case Files, 1885-1963 Series 644
- Justice, Department of. Legal Services Division. Closed Escheats Index, 1944-1968 Series 1860
- Justice, Department of. Legal Services Division. Consumer Complaints, 1966-1969 Series 1914
- Attorney General. Court Dockets, 1850-1911 Series 632
- Attorney General. Docket of Escheats, 1899-1960 Series 633
- Attorney General. Dockets to Closed Case Files, 1905-1961 Series 647
- Attorney General. Escheats of Bank Deposits, 1936-1938 Series 641
- Attorney General. Expenditure Record, 1903-1916 Series 640
- Justice, Department of. Legal Services Division. General Correspondence, 1882-1969 Series 629
- Attorney General. Index to Attorney General's Correspondence, 1907-1919 Series 630
- Attorney General. Index to Closed Case Files, 1894-1905 Series 634
- Justice, Department of. Legal Services Division. Informal Opinions, 1961-1969 Series 257
- Attorney General. Inheritance Tax Files, 1908-1912 Series 1034
- Attorney General. Investigations of Restraint of Trade, 1921-1922 Series 1952
- Attorney General. Opinion Index of the Attorney General, 1882-1885 Series 638
- Attorney General. Opinions of the Attorney General to State Officials, 1858-1913 Series 1949
- Attorney General. Outgoing Correspondence (Letterpress), 1859-1907 Series 631
- Attorney General. Record of Loans Examined, 1897-1926 Series 639
- Attorney General. Wills, 1902-1953 Series 1858
- Justice, Department of. Legal Services Division. Workmen's Compensation Investigations, 1956-1972 Series 1912

Audit, Department of State
- Audit, Department of State. Municipal Audit. City Financial Reports, 1925 -1962 Series 777
- Revenue, Department of. State-Local Finance. Local Fiscal Information and Analysis. County Budgets, 1965 -1971 Series 1802
- Audit, Department of State. Municipal Audit. County Financial Reports, 1925 -1962 Series 1815
- Audit, Department of State. Municipal Audits. Town and Village Financial Reports, 1925 -1962 Series 776

Barber Division
- Health, Board of.. Barber Division. General Correspondence and Subject File, 1942 -1953 Series 888

Barbers' Board of Examiners
- Barbers' Board of Examiners. Annual Reports, 1905 -1914 Series 887
- Barbers' Board of Examiners. Apprentice Register, 1907 -1913 Series 882
- Barbers' Board of Examiners. Barber Register, 1903 -1913 Series 880
- Barbers' Board of Examiners. Examination Record, 1909 -1913 Series 884
- Barbers' Board of Examiners. Expense Books, 1903 -1907 Series 886

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MINNESOTA STATE ARCHIVES CHECKLIST Page 1

Adjutant General

Series not listed; records require arrangement and description; consult finding aids in the State Archives.

Administration Department

Biennial Budgets from State Agencies and Institutions, 1953-1975
110.0 c.f. (110 boxes)
Biennial budgets, presentation documents, and related materials. Boxes 23-31 contain miscellaneous reports and records, including various board and commission minutes.

Correspondence and Subject Files, 1947-1953?
11.0 c.f. (11 boxes)

Department Record of War Bond Participation, 1942-1943
1 vol.
For all state departments.

Division of Administrative Management Reports, 1940s
0.75 c.f.
Reports on various aspects of state administration, including reorganization and planning, prepared by the Division of Administrative Management, which "operates within the Department of Administration of the State of Minnesota under a grant from the Spelman Fund of New York." (Quotation from inside front cover of one report; other reports give title as Division of Administrative Management and Research).

Budget Division

Miscellaneous Subject Files, 1950-1973
0.2 c.f. (15 folders)
Correspondence, interoffice memos, worksheets, and budget estimates.

Commissioner

Correspondence and Subject Files, 1957-1959
6.0 c.f. (6 boxes)
Records of Arthur Naftalin, commissioner, relating to higher education, government reorganization, and management improvement.

Subject Files, 1939-1978
95.5 c.f. (96 boxes)
Correspondence, memos, reports, manuals, and other materials relating to the operation of various state government departments, boards, and commissions; financial matters; legislation; state property; and other topics of interest to the Department of Administration. Topics for which the files are particularly extensive include budgets, building code and program, the State Capitol, civil service, state and community colleges, the Council of State Governments, the governors' office and committees, Highway Department, state owned institutions and land, legislation, Minnesota Supreme Court, and taxes.

Horticultural Society
Series not yet listed; consult finding aids in the State Archives.

Housing and Redevelopment Division
see Administration Department

Housing Finance Agency
Series not yet listed; consult finding aids in the State Archives.

Human Rights Department
Series not yet listed; consult finding aids in the State Archives.

Humane Society
Complaint Register, 1944-1945
1 vol.
Register of complaints of cruelty to animals including offender's name (if known), location of the incident, nature of the offense, complainant's name, and action taken by the society.
Miscellaneous Records, 1932-1952
1.0 c.f. (1 box)
Records include correspondence, printed material, and films.
Records, 1924-1950s
5.5. c.f. (4 boxes and 1 oversize box)
Included are complaint files, subject files, financial records, minutes, and pamphlets.

Immigration Board
Biennial Reports, 1908-1922
7 items
Published biennial reports of the activities of the board pertaining to the promotion of immigration to the state, and the state's ability to attract immigrants.
Correspondence, 1911
12 items
Correspondence of George Welsh, commissioner of immigration, primarily regarding the availability of homestead land in Minnesota, and disputed titles to land in two counties.

Indian Affairs Commission
Records, 1950-1976
2.0 c.f. (2 boxes)
Records include minutes, reports, correspondence, and subject files.

Industrial Commission
see Labor and Industry Department

Insurance Division
see Commerce Department

CHRONOLOGICAL LIST Page 3

1850-1859

Governor
Calendar of Governor's Archives
Governor
Executive Journals
Governor
Commissions, Certificates, and Miscellany
Governor: Appointment Records
Civil Appointment Records
Law Library
Loan Records
Maps and Plats
Maps and Plats
Saint Peter State Hospital
Land Records
Saint Peter State Hospital
Buildings and Grounds Records
Statistics Commissioner
Annual Reports
Supreme Court
Minutes
Supreme Court
Registers of Action
Supreme Court
Judgment Books
Supreme Court
Case Files
Supreme Court
General Index to Cases
Supreme Court: Naturalization Records
Declarations of Intention
Supreme Court: Naturalization Records
Indexes to Naturalization Records
Surveyor General of Logs and Lumber: District 1, Stillwater
Miscellaneous Records
Surveyor General of Logs and Lumber: District 2, Minneapolis
Log Books (Miscellaneous)
Surveyor General of Logs and Lumber: District 2, Minneapolis
Log Marks
Surveyor General of Logs and Lumber: District 2, Minneapolis
Log Journals (Bill Books)
Surveyor General of Logs and Lumber: District 2, Minneapolis
Record Books
Surveyor General of Logs and Lumber: District 2, Minneapolis
Log Ledgers
Treasurer
Bonds, Railroad
Treasurer
Bond Registers
Treasurer
Bond Record
Treasurer

Lawyers
-- Directories
Law Examiners Board
Register of Attorneys, 1891-1921
Leavett, S. W.
Saint Peter State Hospital
Library Records, 1867-1972
Libraries
-- Accounting
Law Library
Disbursement Records, 1926-1944
Law Library
Ledgers, 1911-1939
-- Hospitals
Saint Peter State Hospital
Library Records, 1867-1972
Saint Peter State Hospital
Library Inventory, 1888
-- Patronage
Law Library
Loan Records, 1850-1861
-- Public institutions
Saint Peter State Hospital
Library Records, 1867-1972
Mayo, William J.
Saint Peter State Hospital
Correspondence, 1862-1969
Medicine
-- Prescriptions
Saint Peter State Hospital: Medical Records
Prescription Record, 1890-1895
Saint Peter State Hospital: Medical Records
Prescription Record, South Side, 1891-1893
Menus
-- Public institutions
Saint Peter State Hospital
Weekly Menus and Patient Activity Schedules, 1951-1968
Midwives
-- Licensing
Medical Examiners Board
List of Persons Licensed to Practice Medicine, 1929-1930
Minnesota River
-- Floods
Saint Peter State Hospital
Photographs, 1894-1966
Minnesota State Bar Association
Law Examiners Board
General Correspondence, 1930-1955
Municipalities
-- Auditing and inspection
Public Examiner: Audit Reports
Audit Reports of Townships, Municipalities, and School Districts,

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977-28
Taxation Department: Property Tax Division
Records, 1907-1966

977-30
Lieutenant Governor: Rudy Perpich
Papers, 1957-1975

977-32
Education Department: Vocational Rehabilitation Division
Records, 1923-1976

977-33
Education Department
School District Surveys, 1921-1969
Education Department
State Board Examinations, 1888-1970

977-34
Governor's Commission on the Arts
Correspondence Files and Research Files, 1975-1976
Governor's Commission on the Arts
Minnesota: State of the Arts (Final Report), 1977
Governor's Commission on the Arts
Commission and Subcommittee Meetings and Hearings, 1975-1976

977-35
Governor's Manpower Office: Economic Opportunity Division
Community Action Program Records, 1965-1974

977-37
Control Board: Public Institutions Department
Correspondence of the Supervisor of Institution Libraries, 1928-1942
Public Welfare Department
Correspondence and Miscellaneous Reports, 1940-1948
Public Welfare Department
Subject Files, 1945-1958
Public Welfare Department
Records, 1920s-1958
Public Welfare Department
Records, 1934-1958
Public Welfare Department
Miscellaneous Records, 1940s?-1950s
Public Welfare Department
Systems and Procedures Task Force Work Papers, 1955?-1956
Public Welfare Department
Willmar State Hospital Follow-up Clinic Records, 1953-1954
Public Welfare Department: Public Institutions Division
Correspondence and Miscellaneous Records, 1900s-1940s
Public Welfare Department: Public Institutions Division
Registers and Indexes, 1864-1924
Public Welfare Department: Social Welfare Division
Central Files, 1930s-1950s

53.E.3.7B - 53.E.3.8F
Owatonna State School
Superintendent's Correspondence (Volunteer Services Correspondence)

53.E.3.9B - 53.E.4.3B
Cambridge State Hospital
Miscellaneous Records, 1925-1956 (Boxes 1-5)

53.E.4.4F
Granite Falls, Riverside Sanatorium
Minutes and Proceedings, 1915-1975
Granite Falls, Riverside Sanatorium
Correspondence, 1955

53.E.4.5B
Control Board
Proceedings of the Minnesota State Conference of Social Work, 1894-1936

53.E.4.6F
Corrections and Charities Board
Letters Received, 1897-1900
Corrections and Charities Board
Proceedings of the National Conference of Corrections and Charities, 1891-1900

53.E.5.9B - 53.E.6.3B
Public Welfare Department: Medical Services Division: Education and Manpower Development Section
Correspondence and Related Papers, 1950-1967

53.E.6.4F
Control Board
Record of Non-resident Patients (Part Series)
Public Welfare Department
Miscellaneous Records, 1937-1955
Public Welfare Department: Minnesota Child Welfare Planning Advisory Committee
Manual of Minutes, Reports, and Correspondence, 1964-1966

53.E.6.5B
Public Welfare Department: Patient Programs Supervisor
Records, 1950s

53.E.6.6F - 53.E.6.7B
Public Welfare Department
Commissioner's Reference and Research Files, 1953

53.E.6.8F - 53.E.6.10F
Public Welfare Department: Child Welfare Division